CONTENTS

No. 1 JULY, 1946

MILICENT L. HATHAWAY AND JUNIATA E. STROM. A comparison of thiamine synthesis and excretion in human subjects on synthetic and natural diets 1

MILICENT L. HATHAWAY AND DOROTHY E. LOBB. A comparison of riboflavin synthesis and excretion in human subjects on synthetic and natural diets 9

LESTER L. BOWLES, LANE ALLEN, V. P. SYDENSTRICKER, CHARLES W. HOCK AND W. KNOWLTON HALL. The development and demonstration of corneal vascularization in rats deficient in vitamin A and in riboflavin. Two plates (twelve figures) 19

J. M. COOPERMAN, K. B. MCCALL, W. R. RUEGAMER AND C. A. ELVEHJEM. Attempts to produce a niacin deficiency in the rhesus monkey. Three figures 37

DEAN C. LINDLEY AND TONY J. CUNHA. Nutritional significance of inositol and biotin for the pig. Two figures 47

C. L. COMAR, GEORGE K. DAVIS, RUTH F. TAYLOR, C. F. HUFFMAN AND RAY E. ELY. Cobalt metabolism studies. II. Partition of radioactive cobalt by a rumen fistula cow. 61

HARRY J. DEUEL, JR. Studies on the comparative nutritive value of fats. IX. The digestibility of margarine fat in human subjects 69

JOHN M. LAWRENCE, B. L. HERRINTON AND L. A. MAYNARD. The nicotine acid, biotin, and pantothenic acid content of cows' milk. Three figures 73

D. K. BOSSHARDT, MARY M. AYRES, LAURA C. YDSE AND R. H. BARNES. The effect of liver extracts on the utilization of casein for growth. Three figures 93

W. R. RUEGAMER, L. MICHAUD, E. B. HART AND C. A. ELVEHJEM. The use of the dog for studies on iron availability. Two figures 101

E. M. SCOTT AND ELEANOR QUINT. Self selection of diet. II. The effect of flavor 113

No. 2 AUGUST, 1946

ROSS A. GORTNER, JR., C. M. MCCAY, J. S. RESTARSKI AND C. A. SCHLACK. Some effects of dietary oxalate on the teeth of white rats. Two figures . 121

PAUL R. FREY AND RUE JENSEN. Depletion of hepatic reserves of vitamin A and carotene in cattle. Two figures 133

MARGARET V. DAVIS, HELEN G. OLDHAM AND LYDIA J. ROBERTS. Riboflavin excretions of young women on diets containing varying levels of the B vitamins. One figure 143

H. G. OLDHAM, M. V. DAVIS AND L. J. ROBERTS. Thiamine excretions and blood levels of young women on diets containing varying levels of the B vitamins, with some observations on niacin and pantothenic acid. One figure 163

C. R. GRAU AND D. W. PETERSON. The isoleucine, leucine and valine requirements of the chick 181

P. B. PEARSON, V. H. MELASS AND R. M. SHERWOOD. The pantothenic acid content of the blood and tissues of the chicken as influenced by the level in the diet 187

F. C. CONSOLAZIO AND W. H. FORBES. With the technical assistance of S. P. Taylor, T/4 J. Poulin, T/5 M. Castiglione and T/5 J. Stachelek. The effects of a high fat diet in a temperate environment. Two figures 195

J. B. SHIELDS AND H. H. MITCHELL. The effect of excess dietary calcium on longevity and tissue calcium in the albino rat 213

No. 3 SEPTEMBER, 1946

E. V. EVANS, O. R. IRVINE AND L. R. BRYANT. The retention of nutrients in cheese making. IV. Thiamine in Cheddar cheese made from raw and pasteurized milk. One figure 227

GEORGE BACHMANN, JOHN HALDI, WINFREY WYNN AND CHARLES ENSOR. Reproductivity and growth of albino rats on a prolonged daily intake of caffeine. One figure 239

CHARLOTTE RODERUCK, HAROLD H. WILLIAMS AND ICIE G. MAC. Metabolism of women during the reproductive cycle. VIII. The utilization of thiamine during lactation. Eight figures 249

CHARLOTTE RODERUCK, MARGARET N. CORYELL, HAROLD H. WILLIAMS AND ICIE G. MACY. Metabolism of women during the reproductive cycle. IX. The utilization of riboflavin during lactation. Four figures 267

E. M. SCOTT AND ELEANOR QUINT. Self selection of diet. III. Appetites for B vitamins 285

E. M. SCOTT AND ELEANOR QUINT. Self selection of diet. IV. Appetite for protein. Two figures 293

C. R. GRAU. Protein concentrates as amino acid sources for the chick: Corn gluten meal, cottonseed meal and peanut meal 303

WALTER C. RUSSELL, M. WIGHT TAYLOR, THALIA G. MEHRHOF AND RENATE R. HIRSCH. The nutritive value of the protein of varieties of legumes and the effect of methionine supplementation 313

HANS KAUNITZ. With the technical assistance of Ruth Ellen Johnson. Influence of a single dose of alpha tocopherol administered to vitamin E deficient rats on the fifteenth day upon subsequent growth. Five figures 327

JUNIATA E. STROM AND MILICENT L. HATHAWAY. Evidence of citric acid synthesis in human subjects. One figure 337

No. 4 OCTOBER, 1946

L. A. MAYNARD. Editorial Review. The role and efficiency of animals in utilizing feed to produce human food 345

DOUGLAS V. FROST AND WILLIAM C. RISSER. The adequacy of intravenous partial acid hydrolysates of casein and fibrin for nitrogen balance in dogs. Three figures 361

HELEN R. SKEGGS AND LEMUEL D. WRIGHT. Vitamin B complex studies with diets differing in the carbohydrate component. One figure 375

E. B. FORBES, R. W. SWIFT, W. H. JAMES, J. W. BRATZLER AND ALEX BLACK. Further experiments on the relation of fat to economy of food utilization. I. By the growing albino rat 387

E. B. FORBES, R. W. SWIFT, E. J. THACKER, VIVIAN FRANCES SMITH AND C. E. FRENCH. Further experiments on the relation of fat to economy of food utilization. II. By the mature albino rat 397

B. S. Schweigert, Elizabeth Potts, James H. Shaw, Marie Zepplin and P. H. Phillips. Dental caries in the cotton rat. VIII. Further studies on the dietary effects of carbohydrate, protein and fat on the incidence and extent of carious lesions 405

Lawrence J. Schroeder, William M. Cahill and Arthur H. Smith. The utilization of calcium in soybean products and other calcium sources 413

C. J. Campbell, R. A. Brown, O. D. Bird and A. D. Emmett. Vitamin B_6 and its relation to β-pyracin lactone in the metabolism of the chick 423

N. B. Guerrant, M. G. Vavich, O. B. Fardig, R. A. Dutcher and R. M. Stern. The nutritive value of canned foods. Changes in the vitamin content of foods during canning 435

L. R. Richardson and A. G. Hogan. Diet of mother and hydrocephalus in infant rats. One figure 459

No. 5 NOVEMBER, 1946

D. M. Hegsted. Nutritional studies with the duck. III. Niacin deficiency. One figure 467

Albert Roos, D. M. Hegsted and F. J. Stare. Nutritional studies with the duck. IV. The effect of vitamin deficiencies on the course of P. lophurae infection in the duck and the chick 473

William C. Risser. With the technical assistance of Robert T. Olsen, Oscar H. Walther and Everett W. Doede. Evaluation of proteins by the nitrogen balance method 485

William C. Risser, Jay R. Schenck and Douglas V. Frost. With the technical assistance of Robert T. Olsen, Oscar H. Walther, Everett W. Doede and Jean Heinsen. Intravenous utilization of partial acid hydrolysates of proteins 499

W. Knowlton Hall, V. P. Sydenstricker, Charles W. Hock and Lester L. Bowles. Protein deprivation as a cause of vascularization of the cornea in the rat. Two plates (twelve figures) 509

Paul H. Keyes. Dental caries in the Syrian hamster. II. A preliminary study of the effect of three different rations on caries activity. Two figures 525

Richard H. Barnes, Mary J. Bates and Jean E. Maack. The growth and maintenance utilization of dietary protein. Five figures 535

CHARLES F. LEWIS AND MERLE M. MUSSELMAN. Observations on pellagra in American prisoners of war in the Philippines 549

MARY L. DODDS, FLORENCE L. MACLEOD AND JUANITA SMITH CARR. Photosensitized oxidation of ascrobic acid in urine and blood serum 559

S. H. JACKSON, T. G. H. DRAKE, S. J. SLINGER, E. V. EVANS AND R. POCOCK. The influence of riboflavin consumption on its concentration in hens' eggs. Two figures 567

No. 6 DECEMBER, 1946

WILMA BREWER, THELMA PORTER, RUTH INGALLS AND MARGARET A. OHLSON. The urinary excretion of riboflavin by college women. Two figures 583

LESLIE E. EDWARDS, ROBERT R. SEALOCK, WILLIAM W. O'DONNELL, GRANT R. BARTLETT, MARION B. BARCLAY, ROBERT TULLY, RITA H. TYBOUT, JEAN BOX AND JOHN R. MURLIN. Biological value of proteins in relation to the essential amino acids which they contain. IV. The analysis of fifteen protein foods for the ten essentials 597

ESTELLE E. HAWLEY, LESLIE E. EDWARDS, LELAND C. CLARK AND JOHN R. MURLIN. With the assistance of Angelica Morabito. Biological value of proteins in relation to the essential amino acids which they contain. V. Comparison of the average effect of ten single amino acids with extra egg protein as supplements to an egg diet 613

ROBERT R. SPITZER AND PAUL H. PHILLIPS. Reproduction and lactation studies with rats fed natural rations 631

D. K. BOSSHARDT, WINIFRED PAUL, KATHLEEN O'DOHERTY AND R. H. BARNES. The influence of caloric intake on the growth utilization of dietary protein. Four figures 641

GORDON C. RING. Specific dynamic action of diets high in carbohydrate or fat 653

G. M. BRIGGS, A. C. GROSCHKE AND R. J. LILLIE. Effect of proteins low in tryptophane on growth of chickens and on laying hens receiving nicotinic acid-low rations. One figure 659

ORREA FLORENCE PYE AND GRACE MACLEOD. The utilization of iron from different foods by normal young rats. Three figures 677

Borden award in nutrition 689

Mead Johnson and Company "B-complex" award 690